Application No. 10/725,664
Prelim Amdt. Dated 04/29/04

In the Specification:

Please amend the following paragraphs:

**[0001]** Applicants hereby [[claims]] claim foreign priority benefits under U.S.C. § 119 of Japanese Patent Application No. 2002-351175, filed on December 3, 2002, and the content of which is herein incorporated by reference.

**[0037]** In step 402, m (in the present embodiment, m = 6) preceding sensor detected values S(n), S(n-1), S(n-2), ... S(n-(m-1)) are averaged and the common rail pressure Pav(n) after averaging processing is computed based on the following formula.

$$[[\text{[Formula 1]}\quad Pav(n) = \sum_{i=0}^{m-1}(n-i)/m\ ]]$$

$$\text{[Formula 1]}\quad Pav(n) = \sum_{i=0}^{m-1}(n-i)/m$$

**[0041]** In accordance with the present invention, the reading period of sensor detected values is set at least to a crank angle period of no more than half the pumping cycle of the supply pump. Further, in the present embodiment, the [[read]] reading period is $\Delta t = 30$ CA and is shorter than 90 CA, whish is half of the pumping cycle $\Delta T = 180$ CA of the supply pump 3. The reading period is set to a crank angle period of no more than half the pumping cycle because in this case the moving averaging can be conducted by smartly balancing the peak values and valley values within one fluctuation period of the common rail pressure.

**[0044]** The results obtained with this processing method are shown in FIG. 2. With the feedback control of common rail pressure, as shown in the figure, the actual common rail pressure ("actual pressure") follows the target common rail pressure ("target pressure"), but because the value of the common rail pressure relating to control has heretofore been the sensor detected value itself, the fluctuations of the differential term and the actual pressure based on the

pumping of the supply pump were significant. By contrast, with the common rail pressure Pav(n) (or actual common rail pressure P(n)) after averaging processing which is described as "the actual pressure (present invention)", such fluctuations are eliminated. For this reason, the fluctuations of the value of the differential term determined [[base]] based on the deviation of the common rail pressure Pav(n) after averaging processing from the target common rail pressure (described as "differential term (present invention)" is also eliminated and the values of the two can be advantageously used for the control.

**[0058]** In sum, the present invention exhibits excellent [[effect]]effects, that is, makes it possible to convert the actual common rail pressure into values that can be advantageously used for control and allows the feedback control of common rail pressure to be executed with higher accuracy.